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ABSTRACT

The quality of distance education is becoming more widely recognized in Canada and a greater number of students are opting for this means of furthering their education. In an effective distance education techno-system which focuses on the student, five essential characteristics can be identified. Such a system will be accessible; flexible; user-friendly (with a high degree of interaction and adequate support systems); eclectic (employing a variety of media, teaching strategies, and delivery systems); and egalitarian. The Alberta Correspondence School's operations reflect these requirements and can be considered in terms of three subsystems--materials, support, and administration--that have a combined purpose of meeting students' needs. The school has the capacity to produce instructional materials in a variety of media, e.g., print, audio, video, and computer courseware. Support services include the use of travelling teachers, face-to-face meetings between teachers and students, periodic group seminars, and teleconferencing. Other support services, such as academic counselling, guidance, and diagnostic testing, are limited. Delivery of educational programs and services has been facilitated through the use of a special mailing system; a study center which handles telephone inquiries, in-person registration, and testing facilities; the use of community resources where shop or laboratory facilities are not available; a computer network; and automated office systems for processing student registration and tracking student progress. (10 references) (GL)

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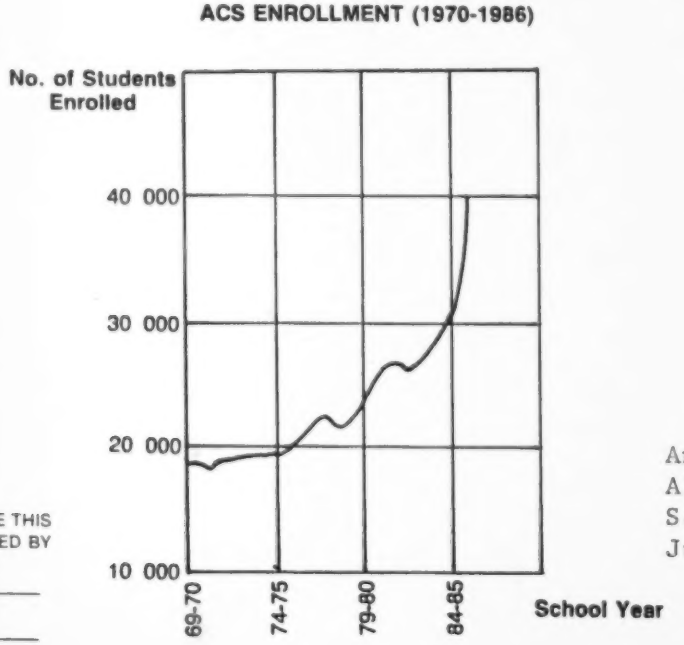
DISTANCE EDUCATION - THE TREND SETTER

Metamorphosis

In the last decade a metamorphosis has occurred. Distance education in Canada has been transformed from the ugly duckling to the elegant swan. With this metamorphosis has come increased respect and credibility for distance learning. The quality of distance education is now widely recognized, and the potential of this mode of learning has generated interest in educational, commercial, and political circles. Many educational authorities are now seriously considering the possibility of distance education providing a viable alternative to labour-intensive and increasingly expensive conventional teaching.

Growth Industry

Interest in distance education is not, however, being driven by the power structures in society. The burgeoning interest in distance education is coming very much as a ground swell as more and more students opt for this means of furthering their education. Gough (1980:1) has described distance education as a growth industry in Australia and the same is certainly true in Canada. In the last ten years, registration in Alberta Correspondence School courses has doubled. During the 1985-86 school year, 40 150 students registered in 60 330 courses. The following graph shows the significant growth in the registration in distance education programmes in recent years.



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July 1987

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This trend towards an increasing demand for Alberta Correspondence School services is likely to continue because distance education enables students to achieve their educational goals in a highly efficient, effective, and yet personalized mode of learning. For many students, distance education or correspondence education is actually the preferred form of learning as, according to Hathaway (1977:164), correspondence education comes closer to the ideal form of learning than does conventional classroom learning.

New Wave

Distance education, so long relegated to second best, is part of the new wave as distance education institutions are well positioned to take advantage of the new information processing technologies.

Many of today's writers, such as Masuda (1981:66-67), are predicting unparalleled change brought about by a computer - communications revolution. They suggest this revolution will exert such force that human society, as we know it, will be transformed into a new type of society - the information society. We are told that education will be

- lifted out of the restrictions of formal schools and delivered through knowledge networks.
- personalized.
- life-long and self-directed.
- knowledge-creative.

Even if you do not subscribe totally to this view, you will probably agree that there will be an enormous amount of change, and distance education institutions are likely to play a leading role in the way educational programmes are delivered in the information age.

This view is shared by Yiegler (1987:1) who states that modern and future electronic information processing, transfer, and management technologies will call into question every conventional educational device and organizational arrangement. Schools and colleges as we have come to know them in the industrial West will undergo profound changes (some already underway!), not the least of which will be the demise of any technical reasons for constraining learning to the conventional

boundaries of time and place. To put it another way, the "distance education" tradition puts correspondence schools at a distinct advantage in the competition for designing new, imaginative, and effective delivery systems over the next decade and indeed into the next century.

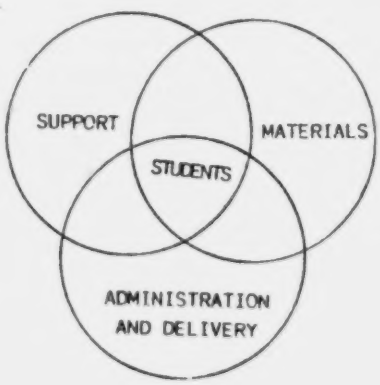
During the first half of this century, distance education was viewed as a deviant mode of learning, and it offered no challenge to existing educational structures. Now distance education techniques are leading the way and transforming conventional classroom methodology.

Nature of Distance Education

Holmberg (1985:1) has defined distance education as the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance, and tuition of a tutorial organization. Effective distance education systems do not attempt to replicate traditional methods of classroom instruction. Distance education is freed from many of the constraints of classroom learning which is time and place specific.

One of the primary strengths of distance education is its student-centred approach to learning. By its very nature, its inherent flexibility, distance education can readily accommodate individual student needs, varying learning styles, diverse geographic locations, and erratic time schedules. The following paradigm developed by Payne (1985:1) demonstrates the student-centredness of a distance education technosystem.

DISTANCE EDUCATION
TECHNOSYSTEM



In an effective distance education technosystem which focuses on the student, five essential characteristics can be identified. Such a system will be

- accessible.
- flexible.
- user-friendly.
- eclectic.
- egalitarian.

1. Accessible

Distance education programmes are accessible to students regardless of location, personal circumstances, or level of academic preparation. In this era of geography-indifferent technologies, accessibility and the quality of the interaction between the student and the teaching institution is improving significantly. Further improvement in accessibility could be achieved by making services available on a regional basis and outside standard office hours.

2. Flexible

As students who learn at a distance demand flexible programmes, distance education institutions make every effort to ensure the learning experience can occur anywhere, anytime. Alberta Correspondence School students have repeatedly demonstrated that they are not prepared to be bound to a fixed schedule, e.g. broadcast, teleconference, or to travel to a specific location for seminars, camps, or work on a computer terminal. The Alberta Correspondence School has, of necessity, been sensitive to client preference and has concentrated on developing programmes which can be accessed at a time and place convenient to the student. Such arrangements give the student a large measure of control over the learning situation, and this undoubtedly contributes to a heightened sense of personal effectiveness.

3. User-Friendly

Being user-friendly is essentially a matter of attitude, of being client-oriented. White (1983:1) has indicated that well-managed companies are customer-oriented. They are "customer driven" - not technology driven, not product driven, not strategy driven. They believe that constant contact with the customer provides insights that direct the company. Educational

organizations must be equally concerned with good relationships with clients if they hope to remain viable in the post-industrial society.

The tone of the interaction is set in the initial contact between the student and the teaching institution. When this tone is positive and encouraging, the foundation of a good relationship is laid.

This constructive rapport must be maintained for the duration of the association with that student. The institution must strive to keep bureaucracy to a minimum - it should be transparent to the user - and all administrative and instructional guidance must be kept as simple as possible. Directions and suggestions must be clear, concise, and easy to follow, and every encouragement should be given. The focus needs to be on building the skill level, knowledge base, understanding, and perhaps, above all, the self-confidence of the student. This has to be done through encouragement and support as virtually no punitive sanctions are available to distance educators.

Distance education has the capacity to provide highly personalized programmes which are designed to meet the needs, interests, and aspirations of the learners. When the learners' needs and goals are identified, the teaching institutions can work with the students to help them achieve their individual goals. Ideally, students should have access to quality support systems which would enable them to enter and exit programmes at points appropriate to them. According to George (1985:2) the aim of these support systems should be to help students move from being dependent learners to independent learners.

4. Eclectic

Distance education programmes are eclectic. Distance education institutions are not tied to single mode delivery of a set programme to a homogeneous audience. Varied distance education programmes can be designed to meet the needs and capabilities of a diverse student audience. Diversities of age, culture, academic level, and social and geographic isolation can all be accommodated in distance education programmes.

Programmes can, moreover, be offered in a variety of media to suit particular learning styles. As Michiel (1987:2) points out, for approximately forty per cent of students who are

visual learners, print materials, videotapes, and computer programmes can be utilized. Practical work and hands-on experience with kit material may be beneficial for another forty per cent of students who are kinesthetic/tactual learners, and the remaining twenty per cent who are auditory learners may respond better to audiotapes, telephone tutoring, and face-to-face seminars. A further consideration in the selection of a specific medium is its suitability for the presentation of certain subject matter and particular concepts.

A wide range of strategies can also be employed to meet individual learning needs. The flexible structure of distance education programmes facilitates the adaptation of the programme to students rather than requiring the students to fit into established programmes. After an assessment of the students' academic abilities has been made, study programmes which will help the students achieve their learning objectives can be designed and guidance can be provided to help the students succeed in reaching their goals.

Even various delivery systems are available to suit individual and regional circumstances. The guiding principle in establishing delivery systems should be to get services closer to the student. This could involve some decentralization of the distribution system through expansion of the study centre concept to local areas. In addition to registration and testing facilities, these centres could contain microcomputers, computer terminals, and video players for student use and classroom and laboratory facilities for student seminars and practical work.

5. Egalitarian

Distance education institutions have traditionally been viewed as equity institutions. They have provided opportunities for students who could not otherwise continue with their studies. By delivering educational services to students in difficult circumstances and locations, distance education has contributed to the growth and development of the individual for the betterment of society as a whole. In filling this particular vacuum in the educational system, distance educators have developed approaches which many now consider will become the norm in the future when highly personalized programmes will be accessed at a time and place convenient to the student. Once the individual needs of students can be met anywhere, anytime, the entire educational system will become truly egalitarian.

Practice of Distance Education: The ACS Approach

The Alberta Correspondence School was established in 1923 to provide educational services to students who did not have ready access to schools. Since that time the Alberta Correspondence School has become an integral part of the educational system of Alberta. Its function today is to provide opportunities for students with unique learning needs to continue their studies. It has been a desire to learn which has induced students to enroll in Alberta Correspondence School courses, and it has been a desire to serve these students which has enabled the Alberta Correspondence School to develop effective systems for delivering education at a distance. Now with the proliferation of information technologies, there is in Alberta a growing awareness of and an enthusiasm for the possibilities of distance education. The Alberta Correspondence School views these developments as an exciting challenge and as a means of its becoming even more responsive to students in future.

The operation of the Alberta Correspondence School can be considered in terms of the three sub-systems identified by Payne (1985:1) - materials, support, and administration and delivery. The essential purpose of each of these sub-systems is to meet student needs.

1. Materials

The Alberta Correspondence School now has the capacity to produce instructional materials in a variety of media e.g. print, audio, video, and computer courseware. With the range of media and technology now available, the course development team can select the medium which is both appropriate and motivational. Although print is a very powerful medium which continues to be most effective in delivering education at a distance, other media can be a valuable asset in the learning process. The media selected must, however, be

- easy to use.
- inexpensive.
- flexible as to time and place.
- readily accessible by students.
- acceptable to students.

Computer Assisted Learning and Evaluation (CALE) -- Computer courseware for several vocational education and computer literacy courses are now available. These courses are

self-directed and contain print and practical components in addition to their microcomputer component. They provide students with a variety of learning experiences, immediate feedback, opportunities for interaction, remediation, and cost-effective training.

Videotapes -- Now that videoplayers are widely available, videotapes are being used more extensively in Alberta Correspondence School courses. Language arts, science, mathematics, business and vocational education courses contain video components. The flexibility of videotapes make them an effective learning tool as students can manipulate them almost as easily as a book. They can stop the tape at any point and replay particular sections as often as necessary for clarification and understanding.

Audiotapes -- This is a powerful medium for providing instruction, practice, and remediation in oral work and for exposing students to the beauty of the sound of words and music. It also has the additional bonus of being low cost technology to which everyone can have convenient access. The Alberta Correspondence School includes audiotapes as an integral part of second language courses and as supplementary material in some language arts and social studies courses. In addition, to presenting the oral component of courses, these tapes are used to enhance communication between teacher and student.

2. Support

The model of distance education which has been widely adopted in Canada is Peters' industrialized model. Peters (1983:95-113) has established that learning at a distance is an industrialized form of education which is highly cost-effective. To maintain consistency with this model, the Alberta Correspondence School has devised systems which offer quality educational services for approximately one quarter of the cost of classroom instruction. Since the Alberta Correspondence School must provide extremely cost-effective services to a large number of students, the School has developed highly structured programmes and has kept support services to a minimum. Nonetheless, individual needs can be accommodated as students are placed at a level appropriate for them and they progress at their own rate. In addition, individual feedback and assistance is given to students when they submit their lessons for correction and whenever they contact the teacher by

telephone. Generally, though, the interaction between the student and the teacher is limited because each teacher carries a heavy classload of some two to three hundred students.

Some attempts have been made to encourage more direct contact between the student and teacher and among students. One extremely valuable support programme is the liaison work performed by travelling teachers. Each year travelling teachers pay at least one visit to at-home students, and they hold group sessions with students attending school and taking one or more courses by correspondence.

Other opportunities for face-to-face meetings are provided at elementary school camps or at examination seminars. These initiatives have had mixed results. Although the annual week-long residential camp for elementary students achieved excellent results, this programme has not been heavily subscribed. Rather than holding this camp during the 1986-87 school year, the elementary school has arranged a number of regional day camps which are being well supported, probably because extensive travel is not involved and parents as well as students are included.

At the high school level, there has been a good response to group sessions for Grade 12 students. In June, 1986, the Alberta Correspondence School conducted a series of seminars to assist students in their preparation for the diploma examinations. This initiative was quite successful as a large group of ninety-five students participated in these sessions and student and staff reactions were all positive. The Alberta Correspondence School plans to repeat these seminars twice a year in the future.

Teleconferencing is another means which the Alberta Correspondence School has used to improve the quality of the interaction between teachers and students. Very successful teleconferencing sessions have been conducted with groups of elementary students during the last three years. At the high school level, however, students have shown little enthusiasm for this delivery strategy. Only 16 out of a possible 2 000 students agreed to participate in one experimental session.

While the students who did join the teleconference enjoyed the experience, and the teachers involved felt positive about the session, the labour costs were exceedingly high for so few students.

Other support services which are ordinarily available to students such as academic counselling, guidance, and diagnostic testing are also limited. This low level of student support is a major weakness of this very efficient, but highly centralized approach to correspondence education in Alberta. Hopefully, more support for students will be available in future at the local level.

3. Delivery and Administration

In delivering educational services to students, the focus of the Alberta Correspondence School has been on offering programmes which are independent of time and place since fixed schedules and specific locations are not acceptable to Alberta Correspondence School students. As has been mentioned previously, experiments in broadcast and on-line systems were abandoned because they did not meet client needs and they were quite expensive. Consequently, the Alberta Correspondence School depends primarily on the postal system for the delivery of the learning packages - print materials, laboratory kits, audio and videotapes, and computer diskettes.

Post Office -- The Alberta Correspondence School has collaborated with Canada Post in setting up a mailing system which provides optimum service to students. The School has been assigned a unique postal code so that in-coming mail moves quickly and is kept separate from local Barrhead mail. Out-going mail is metered, posted, and bagged at the School and then it travels relatively quickly to various distribution centres in Alberta. These measures have ensured that the huge volume of mail generated by the Alberta Correspondence School moves expeditiously through the postal system.

Study Centre -- A study centre was established in Edmonton to provide Edmonton area residents with ready access to Alberta Correspondence School services. This centre handles local telephone inquiries, in-person registration, and testing facilities for students. Approximately 35 per cent of all Alberta Correspondence School registrations are processed in this office.

Community Resources -- Where shop or laboratory facilities are not available, arrangements have been made for use of community resources enabling students to complete the practical component of a course. Such arrangements have worked well for vocational education courses.

Computer Network -- A recently established computer network, E-NET, has been used to communicate with other branches of Alberta Education. By the beginning of the 1987-88 school year, this network could be used by participating schools to forward student applications and queries.

Automated Office Systems -- In September, 1985, the Alberta Correspondence School converted its administrative systems from a manual operation to a computerized system. The Data Base for Administration of Correspondence Students (DACS) is supported by a VAX 11-750. The DACS system was designed to aid in the processing and record keeping of registrations, sales and shipments, client accounts, and student lesson and test results. This system has facilitated the processing of student registration and the tracking of student progress. It has also enabled the Alberta Correspondence School to provide more efficient services to an ever increasing number of students with no increase in manpower.

New Systems for a New Age

The educational system of today is a product of its time. It is part of a very long tradition of students travelling to the teacher for elucidation. In the past, most students could walk or ride to the small local school. Others travelled long distances to boarding school. Only the privileged few were educated at home under the guidance of a personal tutor.

As Western society changed from an agrarian society to an urban/industrialized society, new technologies led to the

development of new structures and institutions in our society. The educational systems were affected as profoundly as any other segment of our society. During the period of industrialization, the transportation technology advanced rapidly and had a dominant influence on society.

In Alberta, the drift to the cities accelerated during the 1940's and 1950's, and the small rural schools were no longer viable. The solution to the problem of providing ready access to educational services was found in the well-developed transportation technology. Rural schools were consolidated and students were bussed to centralized schools.

Since then, the rural population has continued to decline and transportation costs have increased dramatically. Eventually the reality had to be faced that further centralization was no longer feasible. Even though transportation technology has been exploited to the fullest, in the thinly populated regions it is no longer logistically possible for busses to deliver all students to schools every day. A new solution to the problem of providing equitable educational opportunities for all students regardless of location and circumstance has to be found.

Now we must turn to the new information processing technologies to solve these problems and to build educational systems appropriate for the post-industrial society. In the information age, education will not be confined to the classroom. Students may have little need to attend school on a regular basis. The new technologies will take learning to the student rather than transporting students to the halls of learning.

The telecommunication-electronic technologies will also reverse the traditional direction of access to educational services. In future, teachers will deliver their services to students. They will reach the student through various media. The students will be regarded as consumers of educational services and the educational authorities will be involved in marketing their products and services. Students will be in a position to direct and control their own learning and to demand personalized educational services designed to meet their unique needs.

The industrial revolution freed us from heavy manual labour. In the information society, we will be freed from arduous mental labour. The shift has been from muscle power, to brain power, to mind power. The industrial revolution created a demand for goods. The information processing revolution will create a demand for services. In this new age emphasis will be placed on humanizing our structures and institutions and personalizing services.

The tools are now available for our society to build powerful distance learning systems which will provide personalized educational services. In the next few decades, the telecommunication-electronic technologies will enable us to alter radically the way we deliver many educational services. Then we will be able to focus on the development of the human mind and spirit to its full potential. Distance learning will set the trend in education into the twenty-first century.

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